

CLAIMS

What is claimed is:

- 5           1. A method of time division multiplexing for  
a forward data packet channel comprising:  
          encoding parallel data sub-packets into parallel  
streams of turbo codes;  
          interleaving each of the parallel streams of turbo  
10 codes to generate parallel streams of quasi-complementary  
turbo codes;  
          modulating the parallel streams of quasi-  
complementary turbo codes to generate parallel streams of  
modulated data symbols; and  
15           multiplexing the parallel streams of modulated data  
symbols by one of multiplexing and non-complete  
puncturing to generate a single stream of modulation  
symbols.
- 20           2. The method of Claim 1 further comprising  
demultiplexing the single stream of modulation symbols  
into multiple in-phase and quadrature data streams.
- 25           3. The method of Claim 2 further comprising  
covering each of the multiple in-phase and quadrature  
data streams with a distinct Walsh code to generate  
parallel streams of Walsh-covered symbols.

4. The method of Claim 3 further comprising summing the parallel streams of Walsh-covered symbols to generate a single in-phase and quadrature sample stream pair.

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5. The method of Claim 1 wherein the modulation is one of quadrature phase shift keying, 8-phase shift keying, and 16-quadrature amplitude modulation.

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6. A forward data packet channel comprising:  
means for encoding parallel data sub-packets into

parallel streams of turbo codes;

means for interleaving each the parallel streams of turbo codes to generate parallel streams of quasi-

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complementary turbo codes;

means for modulating the parallel streams of quasi-complementary turbo codes to generate parallel streams of modulated data symbols; and

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means for combining the parallel streams of modulated data symbols by one of multiplexing and non-complete puncturing to generate a single stream of modulation symbols.

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7. The system of Claim 6 further comprising means for demultiplexing the single stream of modulation symbols into multiple in-phase and quadrature sample streams.

8. The system of Claim 7 further comprising means for covering the multiple in-phase and quadrature sample streams with a separate Walsh function to generate parallel streams of Walsh-covered symbols.

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9. The system of Claim 8 further comprising means for summing the parallel streams of Walsh-covered symbols to generate a single in-phase and quadrature sample stream pair.

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10. The system of Claim 9 wherein the means for modulating comprises one of quadrature phase shift keying, 8-phase shift keying, and 16-quadrature amplitude modulation.

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